

C<sup>1</sup>

1. (Amended) An active low-pass filter system including:  
a low-pass filter circuit including a resistive forward signal flow branch; and  
an isolated-integrator band-reject filter imbedded within the low-pass filter circuit,  
wherein the isolated-integrator band-reject filter forms part of the resistive forward signal  
flow branch.

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6. (Twice Amended) A power amplifier system for driving a load comprising:  
a pulse width modulation power circuit creating ripple spectra;  
an error amplifier and modulator circuit connected to an input of the pulse width  
modulation power circuit;  
a demodulation filter connected between said pulse width modulation power circuit  
and the load;  
a feedback control loop coupled to said error amplifier and modulator circuit and  
including:  
an active low-pass filter;  
a first resistive voltage divider circuit coupled between the output of said  
demodulation filter and a first input of said low-pass filter;  
a feedback demodulation filter coupled to a second input of said low-pass  
filter and including at least one isolated-integrator band-reject filter; and  
a second resistive voltage divider circuit coupled between the output of  
said pulse width modulation power circuit and said feedback demodulation filter.

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—9. (New) A power amplifier system for driving a load comprising:  
a pulse width modulation power circuit having an input and an output;  
an error amplifier and modulator circuit connected to the input of the pulse width  
modulation power circuit;  
a demodulation filter connected to the output of the pulse width modulation power  
circuit;  
a feedback control loop coupled to the error amplifier and modulator circuit and to  
the output of the pulse width modulation power circuit, the feedback control loop

including a feedback demodulation filter, wherein an isolated-integrator band-reject filter is imbedded within the feedback demodulation filter.

10. (New) The system of claim 9, wherein the isolated-integrator band-reject filter includes a variable resistor for tuning the isolated-integrator band-reject filter.

11. (New) The system of claim 9, wherein the feedback demodulation filter is operable as a low pass filter to remove pulse width modulated spectra from the feedback control loop, the pulse width modulated spectra produced by the pulse width modulation power circuit.

12. (New) The system of claim 9, wherein the feedback demodulation filter includes a resistive forward signal flow branch, the isolated-integrator band-reject filter being electrically connected within the resistive forward signal flow branch.

13. (New) An active low-pass filter system comprising:  
a low pass filter circuit having an input terminal and an output terminal; and  
an isolated-integrator band-reject filter incorporated into the low pass filter circuit between the input terminal and the output terminal.

14. (New) The active low-pass filter system of claim 13, wherein the low pass filter circuit includes a resistive forward signal flow branch between the input terminal and the output terminal, the isolated-integrator band-reject filter incorporated into the resistive forward signal flow branch.

15. (New) The active low-pass filter system of claim 13, wherein the active low-pass filter system is at least a second order system.

16. (New) The active low-pass filter system of claim 13, wherein the low pass filter circuit includes a first resistor and a second resistor, the isolated-integrator band-reject filter electrically connected between the first and second resistors.

17. (New) The active low-pass filter system of claim 16, wherein at least one of the first and second resistors has a resistive value of zero.

18. (New) The active low-pass filter system of claim 13, wherein the isolated-integrator band-reject filter includes at least three capacitors with equal value and at least two resistors with equal value.

19. (New) The active low-pass filter system of claim 13, wherein the low-pass filter circuit includes a Sallen & Key filter.

20. (New) The active low-pass filter system of claim 13, wherein the low-pass filter circuit includes a multiple feedback filter.

21. (New) The active low-pass filter system of claim 13, wherein the low-pass filter circuit includes a state variable filter.--

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